

Listing of Claims:

1. (Currently amended) Power converter for providing power to an input terminal of a load,
the power converter comprising:

a current path that includes an inductor having an input for receiving energy from a power supply and ~~[[an]] a capacitor circuit~~~~output capacitor~~ for providing an output voltage
outputting power to the input terminal of the load;

an additional current path, beginning at an output of the inductor and including a circuit element configured to ~~open and close~~ control the additional current path, said additional current path formed ~~to have~~~~such that~~ a current flowing through said additional current path ~~reaches~~ basically immediately reach a desired ~~value~~~~value~~, when said additional current path is enabled by the circuit element ~~opened~~;

a first switch coupled between the power supply and the inductor, the first switch configured to provide the energy from the power supply to the inductor; and

a feedback circuit configured to control and enable the additional current path, in response to a level of a voltage used for outputting the power reaching a first threshold, to draw current from the input terminal of the load. ~~circuit element to open said additional current path, when said output voltage across said output capacitor reaches a predetermined maximum value,~~

~~wherein the inductor provides the energy from the power supply to a parallel arrangement of the output capacitor and the additional current path.~~

2. (Currently amended) Power converter according to claim 1, wherein the output capacitor circuit includes a capacitor for accumulating energy and providing a node for the voltage used for outputting the power.~~said additional current path comprises a controllable current source.~~

3. (Currently amended) Power converter according to claim 1, wherein said additional current path is a low impedance path when enabled ~~open~~.

4. (Original) Power converter according to claim 3, wherein said low impedance path

comprises a resistor.

5. (Currently amended) Power converter according to claim 1, wherein said feedback circuit is configured to ~~control the circuit element to~~ enable the ~~open~~ said additional current path for a predetermined time.

6. (Currently amended) Power converter according to claim 1, wherein said feedback circuit is configured to control the circuit element to ~~close~~ disable the additional current path ~~when~~ in response to the level of the voltage reaching a second threshold ~~predetermined output voltage is reached.~~

7. (Currently amended) Power converter according to claim 1, wherein said feedback circuit is configured to control the circuit element to enable and disable ~~open and close~~ the additional current path based on the level of the ~~said output~~ voltage.

8. (Currently amended) Power converter according to claim 1, wherein said feedback circuit is further configured to control the current through ~~the circuit element to open and~~ ~~close~~ the additional current path based on a current through said inductor while the additional current path is enabled.

9. (Original) Power converter according to claim 1, wherein said power converter is one out of a group of a buck converter, a boost converter and a buck/boost converter.

10. (Currently amended) Method for controlling a power converter, the power converter including a current path having an inductor with an input for receiving energy from a power supply and ~~[[an]] a capacitor circuit~~ output capacitor for ~~providing an output voltage~~ outputting power to an input terminal of a load, said method comprising:

providing the energy from the power supply to the inductor via a switch; and

opening in response to a level of a voltage used for outputting the power reaching a first threshold, enabling a controllable additional current path arranged to begin at an output of the inductor and in parallel to said output capacitor, ~~when said output voltage across said~~

~~output capacitor reaches a predetermined maximum value, the additional current path configured to reach a respective desired current flows~~current flow basically immediately through said additional current path and draw energy from the input terminal when enabled.
~~wherein the inductor provides the energy from the power supply to the parallel arrangement of the output capacitor and the additional current path.~~

11. (Currently amended) The method of claim 10, wherein the additional current path includes a controllable element configured to selectably enable and disable ~~for opening and closing~~ the additional current path.

12. (Currently amended) The method of claim 11, further comprising using the controllable element to inhibit the energy provided by the inductor from flowing through the additional current path when the additional current path is disabled ~~closed~~.

13. (Previously presented) The method of claim 10, further comprising opening the additional current path for a predetermined amount of time.

14. (Currently amended) The method of claim 10, further comprising disabling ~~closing~~ the additional current path in response to [[when]]the level of the~~output~~ voltage reaching ~~reaches~~ a second threshold ~~predetermined value~~.

15. (Currently amended) The method of claim 10, further comprising adjusting the current through the additional current path to be responsive to a current through the inductor in a time period when the additional current path is enabled ~~controlling opening and closing of the additional current path responsive to a current through the inductor.~~

16. (Currently amended) Power converter according to claim 1, wherein the circuit element is a controllable element for enabling and disabling ~~opening and closing~~ the additional current path.

17. (Currently amended) Power converter according to claim 16, further comprising a second switch, a first end of the second switch that is coupled between the inductor and ground and that is coupled to the first switch and a second end of the second switch coupled to a ground voltage, the second switch configured to pass current to the ground voltage when the second switch is engaged.

18. (Currently amended) Power converter according to claim 16, wherein the controllable element inhibits the energy provided by the inductor from flowing through the additional current path when the additional current path is disabled ~~closed~~.

19. (New) The method of claim 15, the adjusting the current through the additional current path while in the conductive state to be responsive to a current through the inductor includes configuring the additional current path to pass a current substantially equal to the current passed through the inductor.

20. (New) The power converter according to claim 8, wherein the feedback circuit is configured to control the current through the additional current path based on a current through said inductor while the additional current path is in the conductive state to set the current through the additional current path to be substantially equal to the current through the inductor.

21. (New) The power converter according to claim 1, wherein the first and second values are selected to achieve hysteretic control of the current through the additional path.

22. (New) The power converter according to claim 1, wherein the additional current path draws energy from the inductor and the capacitor circuit while enabled.

23 (New) The power converter according to claim 1, wherein the energy storage circuit is coupled to the output of the inductor.

24. (New) The power converter according to claim 6, wherein said additional current path is a high impedance path when disabled.

25. (New) The power converter according to claim 24, wherein the current path is substantially non-conductive when disabled.